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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,376	09/15/2003	Shinichi Sugawara	Y-221	1620
802	7590	08/23/2004	EXAMINER	
DELLETT AND WALTERS			CHAN, EMILY Y	
P. O. BOX 2786			ART UNIT	
PORTLAND, OR 97208-2786			PAPER NUMBER	
			2829	

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/663,376

Applicant(s)

SUGAWARA, SHINICHI

Examiner

Emily Y Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) 2 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:
  - (1) Page 2 Line 5: The term "waver" should be changed to "wafer."
  - (2) Page 2 Line 23: The extra letter "d" located at the end of the sentence  
Should be deleted.

### ***Claim Objections***

Claims 1 and 5-6 are objected to because of the following informalities:

- (1) Claim 1 line 14: "prove" should be "probe".
- 2) Claim 5: the function for the rotary guide plate having a stepped stage  
Is not clearly stated.
- (3) Claim 6: "power supply" and "signal" lack antecedent basis because  
there are nowhere the power supply and signal are mentioned in the claims.  
More specifically, it is unknown where the power supply is connected and where  
the signal comes from.

Appropriate correction is required.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature that the diameter of the probe needle for power supplies is larger than the diameter of the probe needle for signal recited in claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 6 are rejected under 35 U.S.C. 102 (b) as being anticipated by Prodopp ('822).

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Regarding to claim 1, Prodopp ('822) discloses a probe card (42) of a measuring apparatus (see Fig. 1, adapter 10) for a semiconductor device (circuit board, chips and analogous components) comprising: an electrically conductive linear probe needle (11) whose bottom end contacts with device under test (20), a circuit board (43) connected electrically, an upper guide plate (12) held horizontally and firmly near the middle point between the upper end and the center of the probe needle (11) and having a guide hole (112) to guide the probe needle (11), a lower guide plate (13) held horizontally and firmly near the middle point between the center and the bottom end of the probe needle (11) and having a guide hole (113) to guide the probe needle (11), a rotary guide plate (14) held horizontally and movably near the center of the probe needle (11) and having a having a guide hole (16) to guide the probe needle (11), an initial-position holding means (15) to hold the rotary guide plate (14) temporary and firmly at the initial position where the center of the probe needle is straight, a movable holding means (stops 45,46) (see Col. 11, lines 61-62) to hold movable the rotary guide plate (14) at the position where the center of the probe needle (11) bent, a driving means (21) to move the rotary guide plate (14) in the horizontal plane (see Col. 10, lines 36-39 " with freedom of movement in direction of arrow A or B".

Regarding to claim 6, Prokopp ('822) discloses that the tips of the probe needle (11) can be used to engage wires, legs of electrical components, surfaces adjacent of surrounding bores or holes in components to be tested and /or others, therefore the diameter of Prokopp ('822) 's probe needle (11) meets the

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claimed limitation that the diameter of the probe needle for power supply is larger than the diameter of the probe needle for signal.

Therefor, Prokopp ('822) anticipated the claimed invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prodopp ('822) in view of danget al (9'637).

For claim 3, Prodopp ('822) does not disclose an eccentric bearing mounted in the rotary guide plate and a fixed guide pin inserted in the eccentric bearing.

For claim 4, Prodopp ('822) does not disclose an eccentric bearing mounted in both of the upper and lower guide plates and a fixed guide pin is fixed in the rotary guide plate and is inserted in the eccentric bearing.

Dang et al ('637) disclos a probe testing of an integrated circuit (see Fig. 5A) and exclusively teach that a eccentric bearing (cylindrical bearing 77) is rigidly attached to each of the four guide plates 76. Dang et al ('637) also exclusively teach a fixed guide pin (cylindrical alignment shaft 78) is inserted through the cylindrical holes in the bearing 77 (see Col. 8, lines 44-46).

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It would have been obvious to one of skill in the art to incorporate the bearing and shaft as a fixed guide pin inserted in the bearing as taught by Dang et al ('637) in Prodopp ('822)'s probe card for the expected benefit of providing reliable electrical contact of probe tips to integrated circuit bonding pads without causing "scrubbing", yet avoids problems associated with alignment, instability with the curved flex probe structure as disclosed by Dang et al ('637) (see Col. 3 lines 16-22).

***Allowable Subject Matter***

5. Claims 2 and 5 would be allowable if rewritten to overcome the rejection(s) under claim objection, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter

Claims 2 and 5 are indicated allowable because the prior art of record does not teach or suggest that a probe card has an arc-shaped guide slot made in the rotary guide plate and has the rotary guide plate with a stepped stage in combination with other components recited in the independent claim 1.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Faure et al ('506) disclose a modular test probe (see Fig. 3) having an upper guide plate (12), a guide hole to guide the probe needle, a lower guide plate (4) and a rotary guide plate (68).

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Benedetto et al ('013) disclose a buckling beam probe assembly (see Figs 2 and 3) having an upper guide plate (11), a guide hole to guide the probe needle, a lower guide plate (12) and a rotary guide plate (20).

Mizuta ('212) discloses a vertical needle type probe card having an upper guide plate, a lower guide plate and the upper portion of the probe needle is bent into an L shape.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

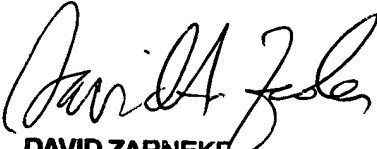
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Ec

8-16-04

  
**DAVID ZARNEKE**  
**PRIMARY EXAMINER**  
8/18/04